

### Remarks

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Thus, in response to the rejections of the claims under the first and second paragraphs of 35 U.S.C. §112, claim 1 has been amended to delete “processed”, and also to recite that the solution or paste contains 5 to 20% of  $\beta$ -conglycinin protein, which is based on the disclosure at page 9, line 3 of the specification. In view of these amendments, the rejections under the first and second paragraphs of 35 U.S.C. §112 have been rendered moot.

Claim 1 has been further amended to recite that heating the solution or paste is conducted at pH 3.5 to 6.0, based on the disclosure at page 5, lines 12-13.

The patentability of the presently claimed invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Thus, the rejection of claims 1, 4, 5 and 10 under 35 U.S.C. §102(b) as being anticipated by Bringe (US 2001/0024677), as well as the rejection of claims 1, 4, 5 and 10 under 35 U.S.C. §102(e) as being anticipated by Bringe (US 6,566,134), are respectfully traversed.

The two Bringe references correspond to each other, i.e. both references are based on U.S. Application Serial No. 09/742,962. The Bringe ‘134 reference is the patented version of the Bringe ‘677 published application. The Examiner’s discussion of each reference is virtually identical to the discussion of the other reference.

The Examiner takes the position that each Bringe reference teaches a method for preparing a soy protein composition comprising a  $\beta$ -conglycinin content greater than 40%, the method comprising a step of heat-treatment at **pH 6.7 to 7.2**, wherein the heat-treatment step is selected from 80-90°C or 120-154°C, and then drying the  $\beta$ -conglycinin mixture.

In contrast thereto, the process of the present invention, as set forth in amended claim 1 above (the only independent claim), is conducted by heating the solution or paste

of the  $\beta$ -conglycinin protein under acidic conditions of pH 3.5 to 6.0, thus being clearly distinguished from both of the Bringe references.

Applicants also note that the present invention is characterized by heating at about the pH of the isoelectric point, and in this regard, as pointed out at page 7, line 2 from the bottom to page 8, line 6 of the present application:

“ . . . the solution or paste containing  $\beta$ -conglycinin protein is heated under acidic conditions of pH 3.5 to 6.0. When pH is out of this range, solubility is insufficiently reduced. Then, the high hydration property and high viscosity are not improved. In addition, solubility is greatly reduced by heating it in a range close to pH 4.5 to 5.0 which is the isoelectric point of  $\beta$ -conglycinin.”

That is, as pointed out at page 4, lines 13-21 of the application, the present invention is based on the inventors' finding that:

“ . . . by heating an aqueous solution or paste of the protein under acidic conditions, solubility is reduced even after putting pH of the solution back to neutral conditions under which the protein is originally soluble, and as a result, a highly hydration property and high viscosity of  $\beta$ -conglycinin protein is reduced in a wide pH range to improve its water reconstitution property, thereby easily processing the protein as various foods and easily ingesting the protein.”

As seen from Table 1 of Example 1 on page 19 of the application, the heating at pH 6.0 or pH 7.0 corresponding to the heating of the references does not improve the hydration property and high viscosity of  $\beta$ -conglycinin.

For these reasons, Applicants take the position that the presently claimed invention is clearly patentable over both of the Bringe references.

The provisional obviousness-type double patenting rejection of claims 1, 4, 5 and 10 as being unpatentable over claims 18-20 of Application Serial No. 11/211,175 is respectfully traversed.

Applicants note that this rejection is improper, because the applied '175 application does not have a common inventor with the present application, and also is not commonly assigned/owned or subject to a joint research agreement with the present application. Therefore, according to MPEP 804 (page 800-11), the double patenting rejection is improper.

Applicants further note that the '175 application has been published as US 2006/0100133. As apparent from the Related U.S. Application Data section on the first

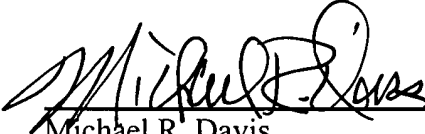
page of the published application, it relates back to Serial No. 09/742,962, which is the application on which both of the above-discussed Bringe references applied under 35 U.S.C. §§ 102(b) and 102(e) are based.

For these reasons, Applicants take the position that the presently claimed invention is clearly patentable over the applied references.

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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